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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,037	05/30/2001	Hirokazu Yano	2204-010851	6743

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EXAMINER

AHMED, SHEEBA

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 10/04/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/870,037

Applicant(s)

YANO ET AL.

Examiner

Sheeba Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 3 and 16 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 16 state that "the corrosion inhibitor is porous silica particles to which Ca ion is bonded at a ratio of 3-40%". It is unclear whether the % recited is a weight %, an atomic % or some other unit%. Appropriate action is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-10, 15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urata et al. (US 6,015,628) in view of Sasaki et al. (US 5,716,255).

Urata et al. disclose an organic composite coated steel sheet (***corresponding to the painted metal sheet of claim 8***) (Column1, lines 8-10) comprising a rolled steel sheet base (***corresponding to the base metal sheet of claim 8***), a zinc or zinc-alloy plated layer (***corresponding to Zn coating of claim 9***), a chromate layer formed on

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the zinc or zinc alloy plated layer (***corresponding to the surface chemically treated with chromic acid as recited in claim 10***), and an organic film formed on the chromate layer. The organic film (***corresponding to the paint composition of the claimed invention***) comprises an epoxy resin (***corresponding to the base resin of the claimed invention and thus meeting the limitations of claims 2 and 15***) and a rust preventive additive (Column 9, lines 1-68 and Column 10, lines 46-63). The amount of the rust preventive additive is 3 to 50% by weight (***thus meeting the limitations of claims 4 and 17***) and examples include silica and aluminum dihydrogen tripolyphosphate (***corresponding to polyphosphate of the claimed invention and meeting the limitations of claims 5 and 18***) (Column 21, lines 20-40). Corrosion-inhibiting activity may be further improved by using ion-exchanged hydrophilic silica wherein the cation is calcium ion (***corresponding to Ca ion-exchanged porous silica claimed invention***) (Column 22, lines 23-35).

Urata et al. do not disclose that the organic film may comprise both the ion-exchanged silica and the aluminum dihydrogen tripolyphosphate.

However, Sasaki et al. disclose a sealing material which has better durability and comprises an aluminum phosphate and a silica wherein the amount of the silica is 15 to 50% by weight with the balance being the aluminum phosphate.

Accordingly, it would have been obvious to one having ordinary skill in the art to use both the the ion-exchanged silica and the aluminum dihydrogen tripolyphosphate in the organic film disclosed by Urata et al. wherein the amount of the ion-exchanged silica is 15 to 50% by weight and the balance is aluminum dihydrogen tripolyphosphate given

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that Sasaki et al. teach that the combination of the silica and the aluminum phosphate in the claimed ratio provides better durability.

3. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urata et al. (US 6,015,628) in view of Sasaki et al. (US 5,716,255) and Nagashima et al. (US 6,180,177 B1).

Urata et al. and Sasaki et al., as discussed above, do not disclose that the base metal sheet has been treated with a fluoroacid such that fluorides are deposited on the surface of the base metal sheet as recited in claims 11-13.

However, Nagashima et al. disclose a surface treatment agents for metallic materials which can impart corrosion resistance and provides improved paint adherence to the metallic materials (Column 1, lines 10-15 and Column 8, lines 2-41). The surface treatment agent comprises fluoroacids which contain four or more fluorine atoms and one or more elements selected from the group consisting of titanium, zirconium, silicon, hafnium, aluminum and boron (Column 2, lines 50-60).

Accordingly, it would have been obvious to one having ordinary skill in the art to treat the base metal sheet disclosed by Urata et al. with a surface treatment agent comprising a fluoroacid which contains four or more fluorine atoms and one or more elements selected from the group consisting of titanium, zirconium, silicon, hafnium, aluminum and boron given that Nagashima et al. specifically teach that doing so can impart corrosion resistance and provides improved paint adherence to metallic materials. Furthermore, the Examiner takes the position that a surface treated with the

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surface treatment agent disclosed by Nagashima et al. would necessarily provide the deposited surface with fluorides in the claimed amount given that the chemical composition of the surface treatment agent and the manner of application as disclosed by Nagashima et al. and that of the claimed invention are identical.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Urata et al. (US 6,015,628) in view of Sasaki et al. (US 5,716,255) and Tanaka (US 5,623,003).

Urata et al. and Sasaki et al., as discussed above, do not disclose that the organic film layer may be coated with a topcoat.

However, Tanaka discloses a coating composition for metal substrates that provides corrosion resistance and comprises a polyester resin or an epoxy-modified polyester resin (Column 1, lines 10-15 and column 2, lines 12-15) and an anti-corrosion pigment such as aluminum dihydrogen tripolyphosphate (Column 6, lines 10-30) and which may be applied to a zinc-plated steel sheet (Column 6, lines 45-55) and may be further coated with a topcoating composition to further improve the corrosion resistance and appearance (Column 7, lines 1-7).

Accordingly, it would have been obvious to one having ordinary skill in the art to add a top coat to the organic film disclosed by Urata et al. given that Tanaka teaches that addend a topcoating layer further improves corrosion resistance and appearance.

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Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (703)305-0594. The examiner can normally be reached on Mon-Fri 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703)308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-5408 for regular communications and (703)305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5665.



Sheeba Ahmed
September 28, 2002



Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700